

Appl. No. 09/760,411

Amndt. dated September 16, 2004

Reply to Office action of July 19, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (amended): A method for transmitting data bits, the method which comprises:

allocating data bits to a plurality of channels;

providing a given time sequence in time-division multiplex frames for transmitting the data bits with a given data rate on a transmission path, the time-division multiplex frames each containing a plurality of ~~multipler~~ time slots such that for each of the channels a respective one of the ~~multipler~~ time slots includes a given number of the data bits; and

transmitting, in the time-division multiplex frames, in accordance with a given allocation of the channels to groups each including a subset of the channels, the ~~multipler~~ time slots of each of the groups in a time-interleaved manner such that between respective two of the data bits of one of the ~~multipler~~ time slots of a given one of the groups there is a

respective one of the data bits of each remaining one of the

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~~multiplets~~ time slots of the given one of the groups and such that the groups are transmitted sequentially.

Claim 2 (amended): The method according to claim 1, which comprises:

providing a clock signal having a clock rate corresponding to the given data rate divided by a number of the channels allocated to the subset;

clocking a transmission of the data bits with the clock signal; and

triggering the clocking of the transmission of the data bits in each of the groups of successive ones of the ~~multiplets~~ time slots with a mutual offset by one clock unit corresponding to the data rate.

Claim 3 (original): The method according to claim 2, which comprises:

grouping the channels in pairs, each of the pairs including a first channel and a second channel;

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clocking the data bits of the first channel in each of the groups with a first half of the clock unit; and

clocking the data bits of the second channel in each of the groups with a second half of the clock unit.

Claim 4 (amended): The method according to claim 2, which comprises:

grouping the channels in channel pairs, each of the channel pairs including a first channel and a second channel; and

clocking the data bits of associated ones of the ~~multiplets~~ time slots of the first channel in each of the groups with a first half of the clock unit; and

clocking the data bits of associated ones of the ~~multiplets~~ time slots of the second channel in each of the groups with a second half of the clock unit.

Claim 5 (original): The method according to claim 1, which comprises transmitting the data bits on a PCM bus in octets each including eight of the data bits.

Claim 6 (original): The method according to claim 1, which
comprises:

transmitting the data bits on a collision bus; and

additionally clocking, with a central component, a signal of
the collision bus with a bus clock corresponding to the given
data rate.

Claim 7 (amended): A device for generating time-division
multiplex signals, comprising:

a plurality of latches, said latches receiving burst signals,
the burst signals being allocated to groups each including a
respective number of the burst signals, the burst signals
containing respective data bit ~~multiplets~~ time slots within a
period of time-division multiplex frames with a given data
rate, each of the data bit ~~multiplets~~ time slots including a
given number of data bits;

said latches being configured such that given ones of said
latches allocated to one of the groups are driven in a time-
shifted manner with a relative time offset with respect to one
another for a time-interleaved transmission of the data bit
~~multiplets~~ time slots of the burst signals, the relative time

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offset of said given ones of said latches within the one of the groups being smaller than a time interval between two of the data bits of one of the ~~multiple~~ time slots;

a common multiplexer; and

said latches having outputs connected to said common multiplexer.

Claim 8 (original): The device according to claim 7, wherein:

said latches, within a given one of the groups, are clocked by a common clock signal with a clock rate corresponding to the given data rate divided by a number of the burst signals of the given one of the groups; and

said latches allocated to successive ones of the burst signals in the given one of the groups are triggered with a mutual offset by a clock period corresponding to the given data rate.

Claim 9 (original): The device according to claim 8, wherein:

said latches are configured for processing respective two of the burst signals in each of the groups; and

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a first one of said latches in each of the groups is clocked by a first half of the clock period and another one of said latches is clocked by a second half of the clock period.

Claim 10 (original): The device according to claim 7, wherein:

said common multiplexer includes a plurality of common group multiplexers having group multiplexer outputs;

a multiplexing device connected to said common group multiplexers;

said outputs of said latches of each one of the groups are connected to a respective one of said common group multiplexers; and

said latches are clocked by a clock signal and are configured such that signals at said outputs of said latches are released by the clock signal.

Claim 11 (amended): A device for obtaining burst signals from a time-division multiplex signal, comprising:

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a plurality of latches, said latches receiving a time-division multiplex signal including, within time-division multiplex frames, data bits with a given data rate, the time-division multiplex frames containing a plurality of ~~multiplets~~ time slots such that the ~~multiplets~~ time slots are provided for respective ones of a plurality of burst signals, the burst signals being allocated to groups each including a number of the burst signals, and each of the ~~multiplets~~ time slots including a given number of the data bits;

a respective one of said latches being allocated to a respective one of the burst signals; and

respective ones of said latches allocated to in each case one of the groups being driven with a mutual time offset with respect to one another such that, between driving two of the data bits of a given one of the ~~multiplets~~ time slots of a given one of the groups, one of the data bits of each remaining one of the ~~multiplets~~ time slots of the given one of the groups is driven.

Claim 12 (original): The device according to claim 11,
wherein:

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said latches, within a given one of the groups, are clocked by a common clock signal with a clock rate corresponding to the given data rate divided by a number of the burst signals of the given one of the groups; and

said latches allocated to successive ones of the burst signals in the given one of the groups are triggered offset with respect to one another by a clock period corresponding to the given data rate.

Claim 13 (original): The device according to claim 12, wherein:

said latches are configured for processing respective two of the burst signals in each of the groups; and

a first one of said latches in each of the groups is clocked by a first half of the clock period and a second one of said latches is clocked by a second half of the clock period.